22. (New) The method of claim 1 further comprising repairing the plurality of grinder pump stations in response to the maintenance warnings.

REMARKS

Entry of the above amendments, reconsideration of the application, and allowance of the pending claims are respectfully requested in view of the remarks below. Claims 1-22 are now pending in this case.

Information Disclosure Citation

For the record, applicants note that an Information Disclosure Citation listing three references along with copies thereof were submitted with the filing of the application. In addition, a Supplemental Information Disclosure Statement and Citation listing twenty-two references along with copies thereof were submitted on January 4, 2002. Applicants respectfully request that the above-mentioned references be considered or reasons be supplied why any of the references cannot be considered, and an initialed copy of the citations listing the considered references be returned to applicants.

Withdrawal of Claims 14-17

Claims 14-17 were withdrawn from consideration. No reasoning was given in the Office Action as to why claims 14-17 were withdrawn from consideration. It is noted that the subject matter of independent claim 14, e.g., recharging of a sensing bell, is also found in claims 8, 9, 12, and 13, which have been reviewed on the merits in the Office Action. Accordingly, it is respectfully submitted that there is no reason why claims 14-17 should be

withdrawn, and thus, they should be considered along with the other claims in this application.

35 U.S.C. §103 Rejection

In the Office Action, claims 1-13, and 18-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Joao (U.S. Patent No. 5,917,405). Applicants respectfully, but most strenuously traverse this rejection for the following reasons.

Initially, Joao is directed to a remote controlled, monitoring and/or security system and method for vehicles, e.g., anti-theft and/or theft deterrent systems, which employs three separate control devices, each of which is remotely located from each other. The three control devices may include a first control device such as a CPU and a transmitter/receiver, which is located in the vehicle. The first control device is responsive to a second control device such as a server located remotely from the vehicle, and the second control device is responsive to a third control device such as a personal computer located remotely from the vehicle and remotely from the second control device.

The system may also be utilized in conjunction with residential premises, residential building and/or a home and/or a household control, monitoring and security system. For example, Joao discloses security system which allow controlling or monitoring, e.g., disabling or re-enabling certain devices, such as the home central electrical system, the home heating system, the home air conditioning, the home water system, the home thermostat or environmental control system, and home equipment systems.

In contrast to the security systems and methods disclosed by Joao, one aspect of applicants' invention is directed to systems and methods for remotely monitoring for repair a plurality of grinder pump stations. In this aspect of applicants' invention, maintenance warnings are transmitted from the grinder pump stations to a central computing unit, or data regarding the operation of the grinder pump stations is transmitted to the central computing unit and used in determining maintenance warnings. For example, by comparing changes in the operating parameters over time and/or comparing the operating parameter against predetermined criteria, an alarm condition requiring repair and/or warning of potential service requirements can be addressed in advance of failure. This technique provides faster response time for repair and reduces maintenance costs by allowing repair prior to the occurrence of increased or major problems or a breakdown of a grinder pump system or a component thereof.

By this amendment, claim 1 has been amended to more particularly recite this aspect of applicants' invention for a method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations. The method includes obtaining data regarding the plurality of grinder pump stations at the first locations, transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations, and at least one of "a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations," and "b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computer, maintenance warnings for the plurality of grinder pump stations." Support for the amendments to claim 1 is found in the

specification in paragraph [0024]. The addition of new matter has been carefully avoided.

In addition, Joao addresses the problem of vehicle and building anti-theft and security. Joao does not address the problem which applicants' invention addresses, namely, the problem of grinder pump stations maintenance needs requiring repair.

Accordingly, Joao does not disclose, teach or suggests applicants' invention as now recited in amended independent claim 1. Therefore, applicants' invention as recited in amended claim 1 would not have been rendered unpatentable in view of Joao. Dependent claims 2-6 and new claim 22 are patentable for the same reasons discussed above with respect to independent claim 1 as well as for their own additional features. For example, Joao does not disclose, teach or suggests applicants' invention as now recited in amended claim 5 which further includes "comparing an operating parameter of the plurality of grinder pump stations over time to determine the maintenance warnings," or as now recited in amended claim 6 which further includes "comparing an operating parameter of the plurality of grinder pump stations to a predetermined criteria to determine the maintenance warnings." In addition claim 4 (regarding an override feature) is also patentable for the reasons noted below in connection with claim 7.

Another aspect of applicants invention is directed to an alarm panel for a grinder pump station which may be connected to a homeowner's existing telephone line and which alarm panel includes an override or "barge-in" capability. For example, if the telephone line is being used by the alarm panel and the homeowner picks up the telephone receiver, transmission from the

alarm panel to a remote location is stopped and the homeowner may use the telephone. The transmission from the alarm panel to the central computing unit may then be repeated at a later time when the homeowner is not using the telephone. Also, if the homeowner is using the telephone, the alarm panel will not interrupt the call during periodic downloads to the service center, but instead wait for an open line. The transmission of information from the alarm panel to the service center allows the homeowner to place a telephone call in an emergency, and also eliminates the need for the homeowner to provide a second telephone line to implement the remote monitoring capabilities of the system.

Joao fails to disclose, teach or suggest an alarm panel for a grinder pump station. In addition, Joao fails to disclose, teach or suggest an alarm panel for a grinder pump station having "an override to allow use of a telephone by a homeowner over use of the telephone line by said modem board during transmission of data from the processor to a central computing unit" as recited in claim 7, and claims 8 and 9 which depend from claim 7. Claims 8 and 9 (regarding the recharging of a sensing bell) are also patentable for the reasons noted below in connection with claim 14. Accordingly, applicants' invention as recited in claims 7-9 would not have been rendered unpatentable in view of Joao.

Still another aspect of applicants' invention is directed to a modular alarm panel for a grinder pump station. The modular alarm panel may be customized based on the user's requirements, e.g., configuring the system to the customer's needs by providing a less expensive stand alone system only having some modular components, to a more expensive system, for example, including several or all of the modular components.

Joao fails to disclose, teach or suggest an alarm panel for a grinder pump station. In addition, Joao fails to disclose, teach or suggest a modular alarm panel which includes a processor connectable to "a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle" as recited in claim 10, and claims 11-13 which depend from claim 10. In addition, claim 4 (regarding an override feature) is also patentable for the reasons noted above in connection with claim 7. Claims 12 and 13 (regarding recharging a sensing bell) are also patentable for the reasons noted below in connection with claim 14. Accordingly, applicants' invention as recited in claims 10-13 would not have been rendered unpatentable in view of Joao.

Another aspect of applicants' invention is directed to a communication technique for transmission of data over a high voltage AC line, for example, the measurement of the water level in the grinder pump to the alarm panel. Typically, the grinder pump is desirably powered by a high voltage line, e.g., 240 VAC line. Also typically, the high voltage line runs from the alarm panel to the grinder pump. Electrically transmitting the measurement of the water level to the alarm panel over a line, which runs along side the high voltage line, requires that the line be shielded. To avoid the expense of shielding, applicants' communication technique includes using the high voltage line to the grinder pump or a separate high voltage line to transmit, e.g., the measurement of the water level to the alarm panel.

Joao fails to disclose, teach or suggest a method for transmitting information over a high voltage alternating current line. In addition, Joao fails to disclose, teach or suggest a method for transmitting information over a high voltage alternating current line which includes "receiving data at a first location",

"modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information", "detecting the series of pulses in the high voltage line at a second location different from the first location", and "determining the data at a second location based on the series of pulses" as recited in claim 18 (and claims 19-21 depending therefrom). Accordingly, applicants' invention as recited in claims 18-21 would not have been rendered unpatentable in view of Joao.

Applicants' invention, in another aspect, is directed to a technique for recharging a sensing tube for use in measuring a level of a fluid in a receptacle. For examples, a processor or a separate pressure transducer printed circuit board connectable to a processor may allow the pump to remain on so that the bottom of the sensing tube is exposed to atmospheric pressure. This may be preformed, e.g., every 128 cycles, to allow recharging the air column inside the sensing tubes. By recharging the air column in the sensing tubes, air temperature or thermal factors, which can affect the accuracy of the reading of the level of the fluid in the tank, may be reduced or factored out.

As noted in the Office Action, Joao does not disclose grinder pumps. Moreover, Joao also fails to disclose, teach or suggest such a method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle in which the method includes "permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube" as recited in claim 14 (as well as recited in claims 8, 9, 12, and 13). Claims 15-17 are patentable for the same reasons above with reference to claim 14, as well as for their additional features. Accordingly, applicants' invention as recited in claims 14-17 and claims 8, 9, 12, and 13 would not have been rendered unpatentable in view of Joao.

Attached hereto is a marked-up version of the changes made to the application by the current amendment. The attachment is captioned "Version with Markings to Show Changes Made."

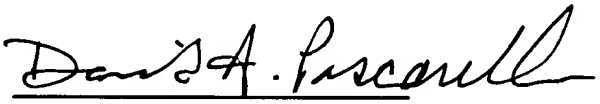
Lastly, the official surcharge ($18) for one addition dependent claim (i.e., for new claim 22) is enclosed.

CONCLUSION

It is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraphs [0025], [0028], and [0031] have been replaced with the following paragraphs, respectively:

[0025] As shown in FIG. 2, alarm panel 20 generally includes a processor 30, a display panel 40, a visual alarm indicator 50, and an audible alarm 60, a manual transfer switch 70 for switching between an AC main and a portable generator, an RS-485 serial communications port 80, an RS-232 serial communications port 90, a handheld ~~programer~~ programmer port 100, a modem board 105 and a telephone port 107, a generator receptacle 110, an interface terminal strip 120, and an alarm silence switch 130. Alarm panel 20 includes an enclosure or housing 22 which may be formed from a fiber glass material and includes a pad-lockable hinged cover 24.

[0028] Power loss high level alarm 16 connects to ~~alarml~~ alarm panel 20 and is designed to be installed in a high traffic area of the residential home. Visual and audible alarm indications are activated if the main electrical power is lost to the grinder pump or the water level inside the tank is at or above a "high" water level. A power loss sensor may include a relay and the high level sensor may include an electrical sensor. Power loss high level alarm 16 is desirably powered by a battery. In addition, the alarm 16 may provide an alarm for indicating service or maintenance required similar to the alarm panel.

[0031] Modem board 105 and/or processor 30 may be configured to allow use of the homeowner's existing telephone line and include an override or "barge-in" capability. For example, if the telephone line is being used by the alarm panel and the homeowner picks up the telephone receiver, any transmission to the service center is stopped and the homeowner may use the telephone. The transmission from the alarm panel to the ~~cental~~ central computing unit will then be repeated at a later time when the homeowner is not using the telephone. Also, if the homeowner is using the telephone, the alarm panel will not interrupt the call during periodic downloads to the service center, but instead wait for an open line. The transmission of information from the alarm panel to the service center allows the homeowner to place a telephone call in an emergency, and also eliminates the need for the homeowner to provide a second telephone line to implement the remote monitoring capabilities of the system.

In the Claims:

Claims 1, 2, 5, 6, 7 and 11 have been amended, and new claim 22 has been added as follows.

1. (Amended) A method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations, the method comprising:

obtaining data regarding ~~operation of~~ the plurality of grinder pump stations at the first locations; ~~and~~

transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations; and

at least one of a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computing unit, maintenance warnings for the plurality of grinder pump stations.

2. (Amended) The method of claim 1 wherein the transferring comprises accessing the data at the first ~~location~~ locations using the central computing unit.

5. (Amended) The method of claim 1 further comprising ~~at least one of comparing an operating parameter of the grinder pump station to provide a first measurement, measuring an operating parameter of the grinder pump system to provide a second measurement, and comparing the first measurement to the second measurement~~ comparing an operating parameter of the plurality of grinder pump stations over time to determine the maintenance warnings.

6. (Amended) The method of claim 1 further comprising ~~measuring an operating parameter of the grinder pump station to provided a first measurement, and comparing the first measurement to a predetermined criteria~~ comparing an operating parameter of the plurality of grinder pump stations to a predetermined criteria to determine the maintenance warnings.

7. (Amended) An alarm panel for a grinder pump station, said alarm panel comprising:

a processor for monitoring the grinder pump; and

a modem board connectable to said processor, at least one of said processor and said modem board comprising an override to allow use of a

telephone by a homeowner over ~~user~~ use of the telephone line by said modem board during transmission of data from the processor to a central computing unit.

11. (Amended) The modular alarm panel of claims 10 further comprising a modem board and wherein at least one of said processor and said modem board comprises an override to allow use of a telephone by a homeowner over ~~user~~ use of the telephone line during transmission of data to a central computing unit.

22. (New) The method of claim 1 further comprising repairing the plurality of grinder pump stations in response to the maintenance warnings.